DIGITAL BUS PASS USING QR-CODE

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Abstract— This project provides an effective solution for managing bus pass information using a database. Our system has three login for user, admin and conductor. This system provides web application as well as android application for people to get their Bus passes online. This system is useful for users to get their bus pass online instead of standing in long queues to obtain their bus passes. This system is helpful to reduce the paper work; time consumption and user get the bus pass in simple and faster way. User can refill their account and extend the validity of card when the pass is going to expire. This system provides functionality like accessing basic information of user for authentication and provide Bus pass for the user without placing them in long queues. This system provides security option for user. The conductor in bus would be able to verify the pass by scanning the QR code provided on the pass with a recommended device. The notification generated by the system would be send to the user in form of message such as when where and what time the card was use. This system also provides online payment facility.

Index Terms—Android Mobile, QR Code, Privacy, Authentication, Online Payment, Client and Server

I. INTRODUCTION

As technology is growing fast, so we need to update ourselves to be in touch with new technology. The current process of bus ticketing is very slow and tedious process. Customer needs to stand in long queue for issuing bus pass in bus Depot which is time consuming and this process is hectic to employees in the Depot as well as user.

Existing bus pass system has same drawbacks, like pass is regenerated every time. This is a vapid process, which require to reprint the pass every time. And existence system does not provide any security options.

This system provides effective software for maintaining bus pass. Digital bus pass generating system is useful for peoples to get their bus pass online instead of standing in long queues to get their bus pass. This system reduces paper work, time consumption and makes the process of issuing pass in simpler and faster way. User can use the pass for long time, just need to recharge their account of digital pass and extend the validity of pass every time when pass is going to expire. No need to print the pass every time. This system performs functionalities like accessing basic information of user authentication. This system provides security option for women by notifying their guardian when pass is scanned. The admin and the conductor of the bus would be able to verify the authenticity of the bus pass by scanning QR code which is provided on the recommended device like android mobile and after scanning it will notify to user when pass is accessed.

ARCHITECTURE DIAGRAM:

II. RELATED WORK

The online bus pass generation system is already implemented in Karnataka state as, “Generation system for transportation service”. The only drawback is the passes to be downloading every time after renew the pass.

Fig.2. Home page

This is the first page of the website and we provided login link for the user.
The generated PDF consists of KSRTC logo at the top-left and photo of the applicant provided by them is displayed below which consists of applicant name, source, destination, date of the pass and expired date of the pass.

III. INFORMATION ABOUT QR-CODE

We are implementing a smart card for digital bus pass system. We are going to use QR code in our card to fetch the information of the user like username, source, destination, DOB, expiry date etc. In our system, user has to create his profile by visiting the website, after registering he/she will be able to sign in and make payment, for his pass. After the successful payment, QR code will be generated and sent to his email address. Hence, e-mail address is mandatory field.

Camera and Android third party libraries will be used to scan the QR code. When QR code is successfully scanned, we will be able to fetch all the general information of the user as well as the validity of the card. The information fetched by scanning will be verified by the conductor who will be scanning the smart card.

IV. PROPOSED SYSTEM

The proposed system is invented to overcome the drawback of the currently existing manual system. This system is web based application and android based application for user to get bus pass online.

Smart bus pass consist of seven modules:

1) Registration module

To get online digital bus pass user have to go many through procedure for that user have to visit the site where user have to fill registration form. In registration user have to give complete details about him/her to create a new account, details such as first name, last name, email address, mobile number and password generated by him/her only. The email address entered by user at the time of registration is used as unique ID and password to login the system.

Only authorized user can have permission to access the system.

2) Authentication module

This system provides protection of information through the mechanism of unique id (valid email address) and password therefore only authorized people can access the database. After successfully registration, user login to system by using their unique id (email address) and password. If id and password is correct than only he/she will be able to access the system.

3) Payment module

As we know the world is becoming cashless so by implementing it, this system is trying to make people use the different cashless way, and put there one step toward digital India. There is no other way to have the transaction another then the online. This system provides online payment facility. For online payment we use pay tm.
4) **Generation of digital Bus Pass**

In our system, once the pass is generated and after having the payment the PDF copy is generated and it is issued to the commuter. The PDF copy can be used by the user as a hard copy or as a soft copy while travelling. The PDF of the pass generated by the system will contain information that is encoded in the form of a QR code.

*Smart bus pass consist of:*

- Name of user
- Gender of user
- DOB of user
- Photo of user
- Unique QR-code that contain all the basic information about the user

![Fig.8: Digital bus passes](Image)

5) **Notification module**

When QR is scanned then system will notify to user via massage.

![Fig.9: Notification](Image)

6) **Bus list module**

In this module, all the list of bus with its source to destination will be displayed. We can search number of buses by entering the root. Admin can add or delete the bus details.

![Fig.10: Bus list](Image)

7) **Conductor side module**

For conductor side, we have created android based application. By this app conductor can scan the bus pass by this he can known the validity of the pass, check the history of user’s. For this, conductor have to login the app by using bus number and the access key which is provide by the admin.

![Fig.11: Login page for conductor](Image)
Fig. 12: after login page

V. CONCLUSION

It is a real time project system which is useful for user who is facing current system of bus pass registration and renewal. In our system we provided smart card using QR code so whatever information related to user is stored in QR code. If user wants to add some new requirements then that can be easily added.

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